1. (Original) A fullerene molecule having one or more free thermal neutrons trapped within the cage-like structure of said fullerene molecule.

2. (Original) The fullerene molecule of claim 1 wherein said fullerene molecule contains greater than about 30 carbon atoms.

3. (Original) The fullerene molecule of claim 2 wherein said fullerene molecule contains about 60 to 70 carbon atoms.

4. (Currently Amended) The fullerene molecule of claim 1 wherein said neutrons <u>are</u> accelerated to elevated energy levels.

5. (Previously Amended) The fullerene molecule of claim 4 wherein said neutron-containing fullerene is provided with an electrical charge.

6. (Previously Amended) The fullerene molecule of claim 4 wherein said neutrons are capable of creating a uniform beam of free thermal neutrons at a uniform energy.

7. (Previously Amended) The fullerene molecule of claim 1 wherein said free thermal neutrons are useful as an irradiation target for bombardment by other particles.

8. (Previously Amended) The fullerene molecule of claim 1 wherein said neutrons are capable of being released from said fullerene molecule as a uniform beam of free thermal neutrons at a uniform energy.

9. (Canceled)

10. (Previously Amended) The fullerene molecule of claim 8 wherein said neutrons are capable of being released from said fullerene molecule by impinging a beam of neutron-containing fullerenes on a metal foil.

11. (Previously Amended) The fullerene molecule of claim 8 wherein said neutrons are capable of being released from said fullerene molecule at a location removed from a source of said neutrons.

12. (Previously Amended) The fullerene molecule of claim 1 wherein said neutrons are capable of decaying into protons.

13. (Previously Amended) The fullerene molecule of claim 12 wherein said neutrons upon decay emit beta radiation and anti-neutrinos.

14. (Previously Amended) The fullerene molecule of claim 1 wherein said neutrons are capable of transforming into anti-neutrons via neutron/anti-neutron oscillation.

15. (Canceled)

16. (Previously Amended) The fullerene molecule of claim 14 wherein said anti-neutrons are capable of decaying into anti-protons.

17. (Previously Amended) The fullerene molecule of claim 16 wherein said anti-neutrons upon decay emit positrons and neutrinos.

18. (Previously Amended) The fullerene molecule of claim 1 wherein said neutrons are capable of combining with protons to form deuterium, tritium or a mixture thereof.

19. (Previously Amended) A C_{70} fullerene molecule having one or more free thermal neutrons trapped within said fullerene molecule, wherein said neutrons are capable of being released from said fullerene molecule at a location removed from a source of said neutrons by disassembling the fullerene molecule using a laser, an electric field, magnetic field, non-coherent electromagnetic radiation, particle bombardment, pressurization, mechanical force, heat, chemical reaction, electric current, or any combination thereof; or by impinging a beam of neutron-containing fullerene molecules on a metal foil.

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Canceled)

25. (Canceled)

26. (Canceled)

27. (Canceled)

28. (Canceled)

29. (Previously Added) The fullerene molecule of claim 1 wherein the molecule is characterized in that it is a beta particle emitter, the beta particle emitter having a half life of about 10 minutes.

30. (Previously Added) A fullerene molecule that is a beta particle emitter having a half life of about 10 minutes.

31. (Previously Added) The fullerene molecule of claim 30 wherein the fullerene molecule contains greater than 30 carbon atoms.

32. (Previously Added) The fullerene molecule of claim 31 wherein the fullerene molecule contains 60 to 70 carbon atoms.

33. (Previously Added) The fullerene molecule of claim 3 wherein said fullerene contains about 70 carbon atoms.

34. (Previously Added) The fullerene molecule of claim 1 wherein said one or more thermal neutrons are trapped within said fullerene molecule by a method which comprises irradiating said fullerene molecule in a nuclear reactor under a thermal neutron flux at a steady-state thermal power of about 10 to 500 kilowatts for about 5 to 15 minutes.